

Cattle Industry Convention



► **Above:** More than 1,250 cattlemen and women attended the 24th edition of Cattlemen's College®, sponsored by Zoetis Animal Health. The educational program was hosted Jan. 31-Feb. 1 in conjunction with the 2017 Cattle Industry Convention in Nashville, Tenn.

► **Below** "Sustainability is much more than any single production practice," said Cameron Bruett, head of corporate affairs for JBS USA. "In order to evaluate the sustainability of the product, the profitability, social and environmental aspects must be considered equally."



a business. Ultimately, it makes it difficult to get our product out the door. That impacts the cattlemen and women who depend on the packers to supply beef to the consumers. The bottleneck in our industry isn't in the number of animals any more. The bottleneck is a labor shortage in the plant, and it's a major problem."

Bruett, who has played key roles in the beef sustainability movement, also spent time defining beef sustainability and illustrating the importance and benefits of the industry's path of continuous improvement.

"There are a lot of labels out there, but those labels aren't about sustainability," said Bruett. "Those labels are about a production practice, but sustainability is much more than any single production practice. In order to evaluate the sustainability of the product, the profitability, social and environmental aspects must be considered equally. Something may be good for the environment, but if it's not also profitable, then it's not sustainable.

"There's a great deal of concern that there's going to be a mandate about practices, but that's not what sustainability is about; it's about the end product. If that product is profitable, contributes to the social landscape and has positive environmental benefits, then it becomes sustainable," Bruett said.

That message resonated with the 200-plus collegiate Cattlemen's College participants in attendance at this year's event.

"It's encouraging to see so many college students in attendance," said White. "These students represent the future of the beef industry, and I'm proud that we've been able to put together an event that is providing them with information that they will be able to take forward and apply to their future careers. Ultimately, Cattlemen's College is designed to benefit and improve our industry, and I'm confident that these collegiate participants will help to create a bright future for our industry."

Presentations from the 2017 Cattlemen's College are available online. Cattlemen and women who were unable to attend the event in Nashville can take advantage of this online option at www.beefusa.org.

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Editor's Note: This article was provided by the National Cattlemen's Beef Association. For more information, contact Ed Frank at 202-879-9125 or efrank@beef.org, or Shawna Newsome at 202-879-9138 or snewsome@beef.org.

Angus Media team coverage of Cattlemen's College.

by **Kindra Gordon**, field editor; **Shelby Mettlen**, assistant editor; and **Troy Smith** field editor

GENETIC SELECTION

Managing Genetic Risk to Improve Fertility

Reproduction has been called the single most important economic trait in beef cattle production. In recent years, numerous genetic defects have been identified as causes of reduced cow fertility or reproductive failure. Genetic defects may cause early embryonic death or abortion and, in some cases, an affected calf may be carried to term but die soon after birth. In any case, there are consequences to animal welfare and producer profitability.



► **Lethal defects result from "broken genes,"** explained Megan Rolf, Kansas State University. To be affected, an animal must receive two copies of the allele associated with a specific defect, with one allele contributed by each carrier parent.

"Turning Loss Into Gain: Managing Genetic Risk to Improve Fertility" was the title of a Cattlemen's College® session during the 2017 Cattle Industry Convention in Nashville, Tenn. Talking about a management tool for avoiding or managing the mating of carriers of lethal recessive genes were geneticists Megan Rolf, assistant professor in the Department of Animal Sciences and Industry at Kansas State University, and Alison Van Eenennaam, cooperative extension specialist in animal genomics and biotechnology at the University of California-Davis.

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Providing background on the manifestation of genetic defects, Rolf explained that lethal defects result from “broken genes.” To be affected, an animal must receive two copies of the allele associated with a specific defect, with one allele contributed by each carrier parent. Only when two carriers are mated can the resulting offspring inherit the defect, and only when both carrier parents contribute a lethal recessive allele. When carriers are mated, the inherited lethal combination occurs 25% of the time.



▶ Alison Van Eenennaam, University of California–Davis, demonstrated the MateSel decision-making software, which she described as a mating allocation program used to calculate which candidate bulls a producer might mate with each cow in his or her breeding herd.

“The impact of a lethal recessive gene depends on how common it is within the cattle population,” added Rolf.

Van Eenennaam then demonstrated the MateSel decision-making software, which she described as a mating allocation program used to calculate which candidate bulls a producer might mate with each cow in his or her breeding herd. Van Eenennaam said the program utilizes expected progeny difference (EPD) values for various traits, allowing the producer to plan matings to achieve certain goals for genetic progress. She demonstrated how the program could match bulls with females to pursue genetic merit based on selection indexes such as beef value (\$B) or weaned calf value (\$W).

The program can also be used to avoid or control the level of inbreeding, thus managing the chance of matings between carriers of specific genetic defects. Furthermore, MateSel can be used to plan matings to improve genetic merit and manage inbreeding at the same time.

“I think it is a very useful program, allowing you to play around with matings on paper to explore opportunities for genetic

progress, and also evaluate the consequences of different mating strategies,” stated Van Eenennaam.

Simply choosing to eliminate all genetic defect carriers from a breeding program may seriously hinder genetic improvement in economically important traits, she said. However, by managing the risk of carrier matings, profitable genetic progress might be achieved with minimal loss due to defects.

Van Eenennaam said the program is currently being used for research purposes, but she is discussing use with breed associations.

— Story & photos by Troy Smith

Editor's Note: Field editor Troy Smith is a freelance writer and cattleman from Sargent, Neb. This article was written as part of Angus Media's coverage of the 2017 Cattle Industry Convention.

DNA Profile Adds Accuracy to Prediction

With the availability of more dependable genetic information for a broader range of traits, cow-calf producers have the tools to make more informed selection decisions that influence cattle productivity and profit. That was the message Kent Andersen emphasized as he addressed Cattlemen's College attendees in Nashville, Tenn., during the 2017 Cattle Industry Convention & NCBA Trade Show.

To illustrate how genetic test data can enhance selection decision-making and profit margins, Andersen, who is genetics associate director of global technical services for Zoetis, talked attendees through a series of interactive selection scenarios. Through photo and video clips, participants were asked to view eight heifers and decide which four to keep and which four to cull. Initial selections were done with visual appraisal only — then Andersen shared genomics data to enhance the decision-making process.

Attendees also participated in a similar activity with fed cattle.

Via the scenarios, Andersen explained how the GeneMax[®] Advantage[™] report provides index scores producers can use to make selection decisions, including the Cow Advantage Score, the Feeder Advantage Score and the Total Advantage Score. He noted that producers can also choose to set outlier parameters that flag animals that may not fit their herd goals for cow cost, docility or tenderness.

**Cattlemen's College
spotlights genetic tools for
building more productive
cow herds and more valuable
feeder and fed cattle.**

Additionally, he noted, including the genomic component in the calculation of expected progeny differences (EPDs) can offer enhanced accuracy more quickly. He shared that for maternal traits, adding DNA profiling can increase EPD accuracy equivalent to adding the performance information of 16 daughters. For growth and efficiency, the DNA component's impact on accuracy can equal that of adding the performance of 18 progeny; and for carcass traits, submitting a DNA profile is equivalent to adding 10 progeny with carcass data.

During the fed-cattle activity, Andersen noted to the audience, “When we only base decisions on color, weigh up and tradition, there's a lot of information and opportunity left on the table.”

He shared that genetic differences in feedlot and carcass performance can be dependably predicted. He shared results that indicated genetic prediction data added value of \$12-\$17 per hundredweight (cwt.), amounting to well over \$100 per head.

In closing, Andersen encouraged cattle producers to embrace the genetic technology that exists, to work with marketing programs that help garner more margin for genetically proven cattle, and to ultimately integrate genetics into their management game plan.

He offered three take-home points for producers, advising:

- 1) Buy (and sell) bulls based on superior EPDs that include DNA profiling and indexes matched to your operation.
- 2) Examine your replacement heifer enterprise — evaluate more advanced selection, mating and marketing tools.
- 3) When marketing feeder and fed cattle, position yourself to be more of a price maker.

Learn more about the GeneMax Advantage program available through Zoetis at www.zoetis.com/animal-genetics/beef/genemax-advantage.aspx.

— by Kindra Gordon

Editor's Note: Field editor Kindra Gordon is a freelance writer and cattlegirl from Whitewood, S.D. This article was written as part of Angus Media's coverage of the 2017 Cattle Industry Convention.